

BOTANY.—*Two new genera of Compositae from Peru and Costa Rica.* S. F. BLAKE, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

(Received July 22, 1957)

The two new genera of Compositae described in this paper belong respectively to the tribes Eupatorieae and Helenieae.

*Ferreyrella* Blake, gen. nov.

Capitula discoidea homogama multiflora parva subaequaliflora corollis subbilabiatis. Involucrum proprium vix ullum; squamae extimae (phyllaria) ca. 3 vel 4 obovatae membranaceae aequales paullum concavae achenia foventes paleis receptaculi similes, demum usque ad medium callose bicostatae. Receptaculum anguste conicum ubique paleaceum, paleis membranaceis persistentibus aperte cymbiformibus anguste obovatis vel oblongis. Corollae subbilabiatæ omnes subsimiles sed exterioribus majoribus magis conspicue subbilabiatis, tubo distincto faucem late subinfundibuliformem subaequante, dentibus 5 inaequalibus 3 exterioribus quam 2 interioribus usque ad triplo longioribus ut videtur vivo specimen capituli breviter radiati praebentibus. Antherae apice inappendiculatae emarginatae basi integrae. Styli rami longiusculi clavellati apice rotundati. Achenia oblonga plano-convexa parva 5-costata glabra nigra, facie interiore planiuscula 3-costata exteriore convexa 2-costata, basi callo brevi recto apice annulo brevi detegibili donata. Pappus nullus.—Herba annua pubescens, foliis inferioribus oppositis ovatis petiolatis crenato-serratis superioribus alternis subsessilibus, capitulis paucis vel pluribus parvis laxè cymosis albis odore Matricariae chamomillae. Species typica *F. peruviana*.

*Ferreyrella peruviana* Blake, sp. nov.

Herba erecta palmaris simplex vel opposite ramosa sordide pilosa, foliis ovatis parvis petiolatis crenato-serratis, capitulis parvis cymosis pedicellatis, corollarum tubo stipitato-glanduloso.

Slender herb 8–15 cm high, bearing 2–50 heads; stem terete, striatulate, 1–1.5 mm thick, often purplish-tinged, rather densely pilose with several-celled acuminate mostly spreading whitish or purplish hairs up to 0.5 mm long; internodes few, mostly 1–2.5 cm long; petioles of lower leaves slender, pubescent like the stem, 2–4 mm

long; larger leaf blades 10–15 mm long, 5–8 mm wide, obtuse to acutish, at base cuneate to rounded, obtusely about 3-toothed on each side, triplinerved from near base and lightly reticulate-veiny beneath, loosely pilose on surface above and chiefly along veins beneath with hairs like those of stem, thin-herbaceous; upper leaves (subtending branches of inflorescence) mostly sessile, smaller, the uppermost bracteiform; heads mostly in groups of 2 or 3 at tips of stem and branches, 3–4 mm high, 3–6 mm thick (as pressed), on densely pubescent pedicels 3–5 (–15) mm long; involucre (i.e., outermost phyllaries) 2.3–2.8 mm high, the phyllaries rather densely pilose and ciliate especially above; receptacle about 1.8 mm high, 0.8 mm thick; pales obovate to (inner) oblong, acute, 2.5–3 mm long, 0.8–1 mm wide, shallowly concave, membranaceous, lightly 3-nerved, pilose and ciliate especially above and (especially the inner) stipitate-glandular-ciliate above; corollas 2.2 (inner) to 3.8 (outer) mm long, the tube 0.5–0.7 mm long, the throat about 0.5 mm long, the longer teeth (in different flowers) 1.2–1.8 mm long, the shorter about 0.5–0.7 mm long; achene about 1.3 mm long.

PERU: Mountain slope (falda de cerro), Usquil, Prov. Otuzco, Dept. La Libertad, 3,000–3,100 meters alt., June 9, 1950, *Ramón Ferreyra* 7623 (type no. 2028382, U. S. Nat. Herb.); same data, *Ferreyra* 7653 (U.S. Nat. Herb.).

This little plant, having anthers completely deprived of terminal appendage, is a member of the subtribe Piquerinae of the Eupatorieae. Both in technical character (lack of pappus) and in general appearance it there finds its closest relative in the genus *Piqueria*, from which it differs primarily in having a paleaceous receptacle. Although this distinction is usually important in the Eupatorieae (for instance, in separating *Eupatoriastrum* from *Eupatorium*, and *Carphephorus* from *Trilisa*), as it is in Compositae generally, it becomes merely a specific or even in one case a varietal character in *Ageratum*. The slenderly conic receptacle and strikingly irregular corollas of *Ferreyrella*, very suggestive of those of

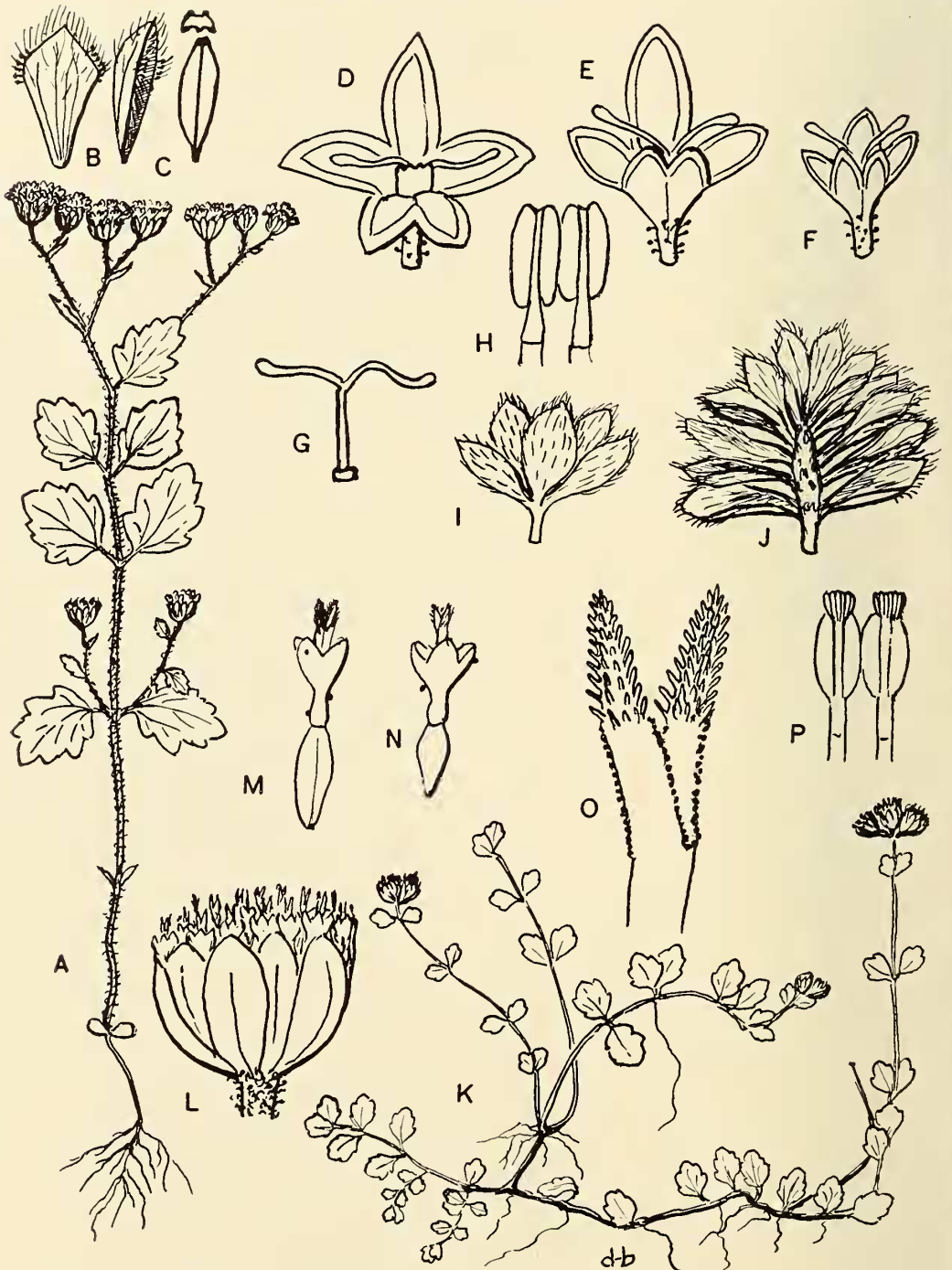


FIG. 1. A-J, *Ferreyrella peruviana*. A, plant,  $\times 1$ ; B, pale,  $\times 8$ ; C, achene,  $\times 14$ ; D, E, F, corollas,  $\times 12$ ; G, style,  $\times 12$ ; H, stamens,  $\times 40$ ; I, involucre,  $\times 6$ ; J, receptacle with pales,  $\times 6$ . K-P, *Illisia repens*. K, plant,  $\times 1$ ; L, head,  $\times 8$ ; M, N, corollas and young achenes,  $\times 8$ ; O, style,  $\times 50$ ; P, stamens,  $\times 50$ .

*Microspermum* (Helenieae) although not so extremely developed, are additional significant features not found in *Piqueria*.

The genus is dedicated to the collector, Dr. Ramón Alejandro Ferreyra Huerta, personally known to many botanists in the United States, whose explorations and publications are steadily increasing our knowledge of the flora of his native land and of other South American countries.

*Itisia* Blake, gen. nov.

Capitula discoidea homogama multiflora aequaliflora. Involucrum 2-seriatum aequale campanulatum appressum; phyllaria pauca (8-10) oblongo-ovalia submembranacea supra plana infra concava achenia foventia. Receptaculum leviter convexum rotundatum nudum. Corollae tubulosae saepius 4-dentatae, tubo distincto faucem campanulatam subaequante, dentibus (3) 4-5 deltoideis aequalibus fauce paulo brevioribus. Antherae basi integrae rotundatae apice appendicibus brevibus latis subtruncatis conspicue cellularibus donatae. Styli rami breviusculi erecti appendicibus lanceolato-triangularibus subaequalibus acutis utrinque breviter hispidis praediti. Achenia (immatura) extima obovato-oblonga ut videtur obcompressa utraque facie leviter ca. 2-costata nigra glabra basi callo brevi recto donata, paulo plusquam duplo longiora quam latiora; interiora ut videtur compressa utroque latere leviter 1-2 costata. Pappus nullus.—Herba parva repens parum pubescens ramis floriferis erectiusculis, foliis oppositis orbiculari-ovatis grosse crenato-serratis breviter petiolatis impresso-punctatis punctis plusminusque pellucidis, capitulis apice ramorum cymosis ternis parvis breviter pedicellatis, corollis albis styli ramis purpureis. Species typica *I. repens*.

*Itisia repens* Blake, sp. nov.

Herba ramis floriferis 6-9 cm altis remote foliatis laxe pilosis et puberulis; folia orbiculari-ovata obtusa basi subabrupte in petiolum breviorum angustata trinervia subglabra herbacea indistincte pellucido-punctata; capitula apice ramorum ternata brevissime pedicellata ca. 3.5 mm alta 4-6 mm diam.; involucri 2.5-3 mm alti phyllaria obtusa sparsissime pilosula ciliolata ad apicem saepe purpurascens; corollae glabrae sparsissime sessili-glandulosae.

Stems slender (0.6 mm thick), subterete, striatulate, green or purplish-tinged, rooting at

some of the nodes, spreading-pilose and with more numerous short more or less incurved hairs, somewhat branched with mostly opposite branches, these (as collected) only about 7 cm long or less, their internodes mostly 4-8 mm long, those of the flowering branches mostly 10-28 mm long; flowering stems 3-headed, erect from a curved-ascending base, pilose with mostly spreading several-celled acuminate hairs, toward apex densely pilose with mostly incurved or ascending hairs; petioles narrowly margined essentially to base, 1-3 mm long, glabrous; blades 4-6 mm long and wide, very obtuse or rounded at tip, at base broadly rounded or cuneate-rounded, obtusely crenate-serrate with 1 or 2 coarse teeth on each side, very sparsely pilose or glabrous above, beneath scarcely paler green and very sparsely pilose toward base of costa or glabrous, obscurely pellucid-punctate (especially in the younger and thinner leaves) due to the presence of immersed yellowish glands on lower surface, or sparsely also on upper surface; peduncle terminal, 3-headed, 5-8 mm long, the pedicels 1-2 mm long, the lateral ones subtended by an oval or suborbicular bract about 2 mm long, entire or 1-toothed on each side; phyllaries obtuse or acutish, 1.2-1.5 mm wide, sparsely dotted with sessile glands, short-ciliate above and there sometimes very sparsely short-pilose, lightly 1-nerved or obscurely 3-nerved; corollas 1.4-1.6 mm long (tube 0.4-0.5 mm, throat 0.5-0.7 mm, teeth 0.3-0.4 mm long); anthers 0.3 mm long; achene 1.3 mm long, 0.4 mm wide.

COSTA RICA: Plants creeping, forming mats in moss on wet cliff in shrub-paramo (*Chusquea*, *Hypericum*, *Vaccinium* association), Cerro de la Muerte, Pan-American Highway, 5 km above Millsville (Villa Mills) (about 8 km above Nivel), Cordillera de Talamanca, about on San José-Cartago provincial border, 3,400-3,500 meters alt., July 25, 1949, *Richard W. Holm & Hugh H. Itlis* 594 (type in Missouri Bot. Gard. Herbarium; duplicate, U.S. Nat. Herb.).

The proper placement of this apparently quite distinct genus is difficult, partly because the material is scanty and not fully mature, partly because of the minuteness of the flowers. In general appearance, opposite leaves, heads, and anthers, it strongly suggests such a member of the Eupatorieae as *Phania*, but the nature of the style branches prevents its reference to that

tribe. The characters of style and stamens, in combination with the naked receptacle, exclude all tribes but the Astereae, Helenieae, and possibly Senecioneae. It does not fit at all satisfactorily into any of the subtribes of Astereae or Senecioneae, and it seems on the whole best placed in the Helenieae. Even there it does not conform too well to any of Rydberg's numerous subtribes, but perhaps goes best in the Amaurianaee, where its discoid heads of regular tubular flowers and relatively short, epappose achenes distinguish it from *Microspermum*. It is not improbable that when the mature achenes become available the genus may have to be placed elsewhere, but it seems quite unlike any known genus. From the rather scrappy material available it is not clear whether the plant is annual or perennial; at any rate, no perennial root is visible.

The genus is dedicated to Dr. Hugh Hellmut Iltis, one of the collectors, now curator of the herbarium of the University of Wisconsin, who has specialized in the Capparidaceae, and to his father, Dr. Hugo Iltis (1882-1952), educator, botanist, and geneticist, formerly of Brünn (Brno) in Czechoslovakia, where he founded the Mendel Museum, which was largely destroyed or stolen during World War II, later professor of biology at Mary Washington College, Fredericksburg, Va., where he established the Mendel Museum of Genetics, now transferred to the University of Illinois. He was the author of a life of Mendel, which has been translated into English, coauthor of *Flora Photographica*, and author of numerous other papers and books on biological subjects. (See biographical notice by L. C. Dunn, *Science* **117**: 3-4. 1953.)

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THE TRUE AIM OF SCIENCE—"to elucidate the dark mysteries and unknown forces which surround us for the benefit of our children, and to make the world more agreeable and intelligible while we ourselves are forgotten, like the seed in the furrow."—SANTIAGO RAMÓN Y CAJAL.